

CAISTOR RURAL DISTRICT  
COUNCIL.

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GENERAL REPORT

BY

ALEXANDER FRASER,

M.B., C.M.,

MEDICAL OFFICER OF HEALTH

TO THE

CAISTOR RURAL DISTRICT COUNCIL.

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31st December, 1910.

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TO THE

# CAISTOR RURAL DISTRICT COUNCIL.

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GENTLEMEN,

I beg to forward you my FIRST ANNUAL REPORT for the year ending 31st December, 1910.

The Caistor Rural Sanitary District consists of fifty parishes, and covers an area of 116,206 acres. It is entirely agricultural. For purposes of registration it is divided into two districts—(1) Caistor, (2) Market Rasen, the latter township being excluded.

## GEOLOGICAL FORMATION.

**Wold  
District.**

On the eastern side of the District is the range of downs called the Wolds, which running in a gentle south-easterly direction attain an altitude of from 300 to 548 feet. The summit ridge is composed of chalk of an average depth of less than 100 feet. The greater part of the frontal slope is composed of jurassic clays and of the lower cretaceous rocks.

This high ground is intersected by numerous valleys inclining generally towards the east. To the east and west the chalk dips under impervious beds of clay.

**Carr  
District.**

From the foot of the Wolds westwards the geological formation is of clay, belts of glacial drift and blown sand, with an outcrop of Lincolnshire limestone along the western border of the District in the neighbourhood of Wadingham.

## RAINFALL.

The rainfall is important as a source of underground water supply. According to the Geological Survey Memoir the Wold district is the wettest part of Lincolnshire with a mean annual rainfall of 27.5 inches. The rainfall in the Carr District is appreciably less.

## WATER SUPPLY.

**Wold  
District.**

The water supply of the Wolds presents some curious anomalies. The chalk being of a highly permeable nature absorbs a large amount of the rainfall, and where clay is banked up against it springs burst out as in the valleys and along the frontal slope. On the higher grounds and towards the water shed the water finds its way rapidly to the east and west.

The amount of absorption varies also with plant-growth, and the result is that the supply is often intermittent. The difficulty is overcome in nearly all these cases by the installation of wind-driven pumps or rams at the lower levels. There are still in the high Wolds, however, some farms and houses which depend upon rain water storage for their supply, and some others are supplied from surface wells, which are not always free from the risk of pollution. Indeed in some of these cases the supply is distinctly bad. The quality of the Wold water is uniformly good when it is derived from the chalk.

A study of the Survey Map will show a series of villages at the base of the western slope of the Wolds beginning at Bigby on the north and ending at North Willingham on the south. These villages occupy an intermediate position, and owing to their proximity to the hills are generally well supplied with water with the exception of Searby.

**Carr  
District.**

In the Carr District proper the water is of sufficient quantity but variable in quality. The wells sunk in the blue clay are generally unsatisfactory, whilst those sunk through the boulder clay to the gravel show a decided improvement in the quality of the water. The majority of the wells in the low country are flush with the surface and many of them are unlined with brick or otherwise protected from contamination.

There are not many deep borings in this part of the District, but they are interesting and may be helpful. I mention a few stating the depth attained before meeting the limestone without giving further details at present, except in the case of



Wadingham, where I append the details of the boring as supplied by the well sinkers, Messrs. Smith, of Grimsby. I am indebted to Mr. Curtis, well sinker, of Moortown, for information with regard to the other wells mentioned.

		Depth of Well.	Depth of Boring.	Total Depth.
1—The Home Mill Farm, South Kelsey	...	24 ft.	147 ft.	171 ft.
2—Carr Farm, South Kelsey	...	30 ft.	106 ft.	136 ft.
3—Mrs. Marriott's Farm, Osgodby	...	24 ft.	55 ft.	79 ft.
4—Mr. Drake's Farm, Kingerby...	..	18 ft.	55 ft.	73 ft.
5—Mr. Abey's Well, Wadingham	...	4 ft.	65 ft.	69 ft.

The details of the last mentioned boring as supplied by the well sinker are as follows :—

3 feet soil	2 feet clay	6 feet rock (oolite)
3 feet rock	6 feet rock	3 feet clay
1 foot blue clay	14 feet clay	11 feet rock (oolite)
1 foot rock	9 feet sand	1 foot clay
		5 feet rock (oolite)

The rocks passed through are old limestone.

The quality of the water obtained from these borings is uniformly good.

There is a continuous water supply at Caistor, Limber, Brocklesby, Somerby, Owmbly, Nettleton, Moortown and Holton. The supplies at Caistor, Limber and Brocklesby, are from wells sunk in the chalk. The other places are supplied from water impounded in the hills and piped to their respective destinations.

**Defective  
Water  
Supply.**  
Tealby.

I beg to report that the water supply is defective at the following places.

The houses at Temple Terrace and Cow Lane are still in the old condition. The Market Rasen Water Company's scheme has not yet matured.

**Middle Rasen.**

A large number of shallow open wells exist and the quality of water is almost uniformly bad. An extension of the mains from Market Rasen and the erection of standpipes would materially help to mend matters. It is a large and straggling parish, extending nearly all round Market Rasen.

**Wadingham.**

Most of the wells are shallow and liable to pollution, and this tendency is verified by analysis. Many houses have no supply at all. In dealing with this place the authorities have hitherto adopted a policy of "Laissez-faire." That policy is not in accordance with modern ideals.

A good supply of water can be readily obtained at a moderate cost, either by making an independent bore or by an arrangement with Mr. Abey, who has an excellent supply from his private boring, of which I have given details.

**Searby.**

The supply is defective, one public pump doing duty for the village.

**Swallow  
Wold.**

This farm is dependent on rain water for domestic purposes, and surface storage for the stockyard.

**Cabourne  
Top Farm.**

Surface storage supplies the stockyard. Water for domestic purposes is carted from Caistor.

**Croxby Pond  
Farm.**

The well here is shallow and in close proximity to the stockyard. It is freely open to pollution.

**Riby Grange.**

The water for the stockyard is pumped up by a windmill from a well at a lower level. It is of doubtful quality, because the well is comparatively shallow and contains only surface water.

The water for drinking purposes is obtained from a well in the stockyard, which is obviously open to pollution.

**Cuxwold.**

Water deficient in quantity.





North Kelsey  
Road.

The supply to the houses on this road is defective. One house is dependent on rain storage supplemented by water from the neighbouring beck. In dry seasons both these sources are liable to dry up.

There are many houses in the neighbourhood of North Kelsey Station which at present obtain their drinking water from the Station House well, through the courtesy of the Station Master.

An extension of the main from Caistor is urgently needed for the supply of this part of the district. The water obtained from wells sunk in the clay is almost uniformly unsatisfactory.

Quarry  
Terrace,  
Caistor.

The houses in this Terrace are at present supplied from a well at the back of the premises.

The well has been known to fail in recent years, and it is too far away from the houses in the upper part of the Terrace. These houses should undoubtedly be connected with the main. The present condition of things is a blot on the water supply of the town.

## DRAINAGE AND SEWAGE.

Caistor, North Kelsey and South Kelsey have irrigation areas. They are in good working order. Keelby empties into two unused streams.

The small villages and isolated houses in the low country drain principally into land ditches which are cleaned out when required.

The villages in the Wold valleys are not generally drained. Cesspools are extensively used, which often give rise to much trouble, especially at Limber, where the drain heads are frequently blocked.

There are comparatively few water closets in the District. The water-carriage system, is, however, infinitely preferable to other modes of disposal in those parts of the District which are provided with a continuous water supply and system of sewers.

The system of disposal generally in use is by means of combined closets and ashbins, which are cemented. Many vaults have been removed in recent years and others are being dealt with. Two hundred and eighty-five yards of sewer have been laid down at Tealby with an outlet into a disused beck.

Refuse  
Disposal.

Caistor and Keelby are at present provided with Scavengers. The work is well done, and there have been no complaints. It is time that Limber and North Kelsey were provided with similar facilities, particularly Limber, where this requirement is really urgent. The cesspool system at Limber, unsatisfactory in itself, requires the attention of a Scavenger to keep the drains in working order. Complaints are frequent from this locality.

## HOUSE ACCOMMODATION.

House accommodation may be said to be fairly good in the District. Cottages are scarce in Caistor, Grasby, Keelby and Swinhope. Two old houses have been pulled down during the year and others must be dealt with at an early date.


Plans for the building of fourteen new houses, including the new School at Legsby, have been submitted to the District Council, and two new houses at Lissington have been built under the supervision of the Board of Agriculture.

Lodging  
Houses.

These are in good condition and well managed. Improvements have been carried out during the year in accordance with the Bye Laws.

Slaughter  
Houses.

There are no public abattoirs in the District. All the private slaughter-houses are well kept.



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Dairies and  
Cowsheds.

In many cases the sheds are imperfectly lighted and ventilated, and the sanitary conditions generally are unsatisfactory. Far too little attention is paid to the cleanliness of the animals, regardless of the fact that milk, which is highly susceptible to its surroundings, requires great care to prevent outside contamination. Absence of fresh air, sunlight and proper drainage in cowsheds is conducive, among other things, to the production of Tuberculosis. A healthy environment is necessary for the production of sound milk, and a more serious effort to attain that end should be made by cowkeepers both in the interests of the general public and for their own advantage. This matter is one of far-reaching importance, and it is the duty of the Health Authority to see that defects are remedied, and the sanitary condition of the cowsheds placed on a more satisfactory basis.

### SCHOOLS.

School cleaning is imperfectly carried out. The buildings are scrubbed and washed out three times a year. The daily dry sweeping and dusting, to a large extent results in a mere transposition of dust. It would be more satisfactory if the floor previous to sweeping were damped with carbolised water, and the cloths used for dusting wrung out in the same solution. Such a procedure would be inexpensive and would help to diminish the amount of germ-laden dust which rises during school exercises.

The Playgrounds are in some cases very bad, whilst the buildings themselves leave much to be desired.

Brocklesby  
Park School.

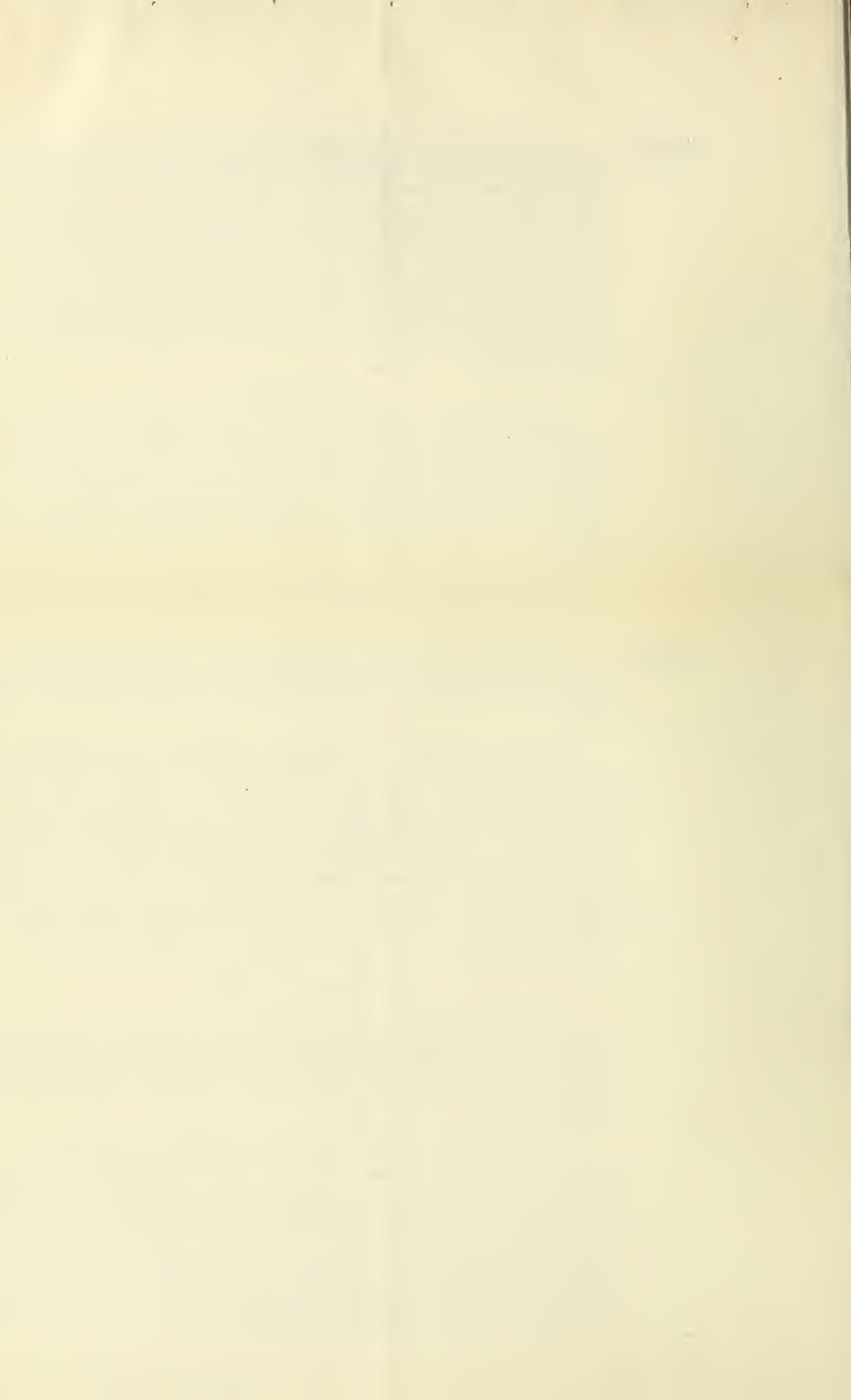
This School was closed for a month on 13th June. Closure was necessary on account of whooping cough and septic sore throat. The latter was looked upon with grave suspicion because of the recurring epidemics of diphtheria in this part of the District.

Dr. Eyre, in his Report on the epidemic of 1908 made various suggestions for the sanitary improvement of the Limber villages. These alterations of course, must have had a salutary effect on the home life of the children. The Report further states that "the centre for the dissemination of diphtheria (as well as of scarlet fever) was undoubtedly the Brocklesby Park School," but no suggestion is made for the removal or amelioration of the insanitary conditions of school life beyond certain recommendations for the improvement of the out offices. Perhaps the School itself did not come within the purview of his Report. In any case the School in its present condition is a menace to the health of the District. I have been much impressed with this aspect of the question, and sent in the following special Report on the subject in July :—

*Copy Extract from Report.*

My attention, however, during the past month has been particularly directed to the condition of the Brocklesby Park Schools. I have been over there seven or eight times and made a careful study of the building from a hygienic point of view. I also had the advantage of a consultation with Dr. Clegg at the Schools, where we met by appointment.

In order to make the matter clear I may as well describe the existing order of things :—The Main Room, facing S.E. is 52 ft. long by 23 ft. wide and 17 ft. high. There are 5 double windows on the S.E. each measuring 6 feet in height and 4 feet 3 inches in width. On the opposite side are four windows, one of them looking into the Infants' Class Room. One half of the terminal windows on each side is provided with an opening at the top, covered with perforated zinc, measuring 2 feet 5 inches in breadth and 8 inches in depth. With the exception of these apertures the windows, which are of some sort of rolled glass, are fixed and cannot be opened. The fireplace at one end of the room, at a right angle to the main entrance, is open, but the fireplace



at the other end of the room and opposite to the main entrance, is closed with sheet iron and a Carron stove provided in its place. The stove pipe enters the chimney at a height of 14 feet above the level of the floor. There are four louvre openings for ventilation alongside the chimneys, and an outlet is provided in the roof.

**The Infants' Room.** This room is 30 feet long by 20 feet wide and 17 feet high. There are three side windows facing south provided with openings at the top. These inlets, when opened to their full capacity, measure 1 foot 9 inches wide and 14 inches deep. They are also provided with perforated zinc coverings. The end window, facing N.W., does not open. The fireplace is closed with sheet iron and the room heated by means of a stove. The stove pipe enters the chimney about 10 feet or 11 feet above the level of the floor. There are three openings in the roof, but they do not communicate with the exterior.

The walls of both rooms are panelled to the height of 4 feet, and the brickwork above is colour-washed.

The Medical history of the Schools for the past 10 years is instructive. From 1900 to 1907 the health record was of an average type and school closure was not necessary, except in 1900, when there was an outbreak of measles. But from 1907 to the present time the story is simply deplorable. School closure was necessary in 1907, 1908 and 1910. In 1909 school exclusion was extensively used. The following extracts from the Log for 1909 will show the state of things :—

- “February 29th. Chicken Pox is still prevalent amongst the children, who never seem free from infectious disease of some kind or other.”
- “April 19th. Order given to exclude all Little Limber children, owing to “Diphtheria.”
- “May 6th. Fifteen children were still excluded on account of Infectious diseases, viz., Diphtheria and Chicken Pox.”
- “May 18th. Two carriers discovered and four others excluded on account of “Diphtheria.”
- “June 17th. Eleven children from Little Limber excluded on account of “Diphtheria.”
- “July 5th. There is still a good deal of sickness amongst the children.”
- “October 26th. Dr. Gaman ordered 30 children from Brocklesby and Little “Limber to be excluded on account of Diphtheria ”

so that although school closure was not enforced in 1909, there is ample evidence to shew that the health of the children was far from satisfactory.

All this history of ill-health in recent years points to a serious alteration in the conditions of school life, and the creation of an environment suitable for pathogenic growth. The bacillus of Diphtheria is always hanging round and seldom misses a chance. A slightly lowered vitality amongst the children gives it the opportunity. The other conditions necessary for its growth are amply provided for. Before the recent school closure for whooping cough septic sore throats began to be prevalent, and I am convinced that the closure of the Schools alone prevented the recurrence of an epidemic of diphtheria. I have come to the conclusion that the immediate cause of the continued ill-health was the closure of the fireplaces and the erection of long stove pipes within the buildings. There are other contributory causes, but the closure of the fireplace in the large room meant the abolition of the principal means of renewing the air, and the same remark applies, though in a lesser degree, to the Infants' Room. The fireplace was closed in the large room in October 1905, and in the Infants' Room in November 1906.

I am satisfied that no improvement of school health can be reasonably expected under present conditions, and I would like to make the following suggestions with a view to the removal of insanitary conditions.





1—Windows on both sides of large room should be made to open top and bottom, so as to allow of the renewal of air during the intervals of school work.

2—Windows in Infants' Room should be made to open top and bottom.

3—Windows should be filled in with plate glass so as to light the rooms properly. It does not matter if the children do look out. Health is more important even than education, and sunlight is necessary for young lives.

4—Fireplaces should be opened immediately.

5—The walls should be plastered. At present the bricks are covered with dust between the joints.

6—Main doorway to be opened on south-east side of porch.

For the present I have recommended "open-air" school as much as possible.

(Signed)

ALEXANDER FRASER, M.O.H.

### INFECTIOUS DISEASES.

The number of cases of Infectious Disease notified during the year 1910 was 23, a decrease of 13 compared with the previous year.

#### COMPARISON WITH FORMER YEARS.

	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	Average for last 10 yrs.	1910
Erysipelas ..	16	6	6	4	8	8	6	5	2	3	6.4	2
Enteric Fever ..	16	10	9	14	0	8	0	1	4	1	6.3	1
Diphtheria ..	8	15	18	12	2	5	75	58	19	27	23.9	6
Puerperal Fever ..	0	0	0	1	0	1	0	1	0	0	3	0
Small Pox ..	0	0	0	0	1	0	0	0	0	0	1	0
Scarlet Fever ..	57	46	60	30	27	36	6	50	28	5	34.5	14
	97	77	93	61	38	58	87	115	53	36	71.5	23

**Scarlet Fever.** Fourteen cases were notified. Of these 4 were in Keelby, 4 in Lissington, 2 in Bleasby Moor, 1 in Wadingham Carr, 1 in Bishop's Norton, 1 in Legsby, and 1 in Thorganby.

Reference to the Table will show that whilst Scarlet Fever was present in sporadic form in several districts it assumed a mild epidemic form in Keelby and Lissington, including Bleasby Moor. No deaths occurred from Scarlet Fever.

**Keelby.** The origin of the outbreak which occurred in July was due to the Keelby Fair. The two children who were notified on 29th July paid a visit to the fair, and the onset of the attack was in accordance with the usual incubation period. The third patient, notified on 2nd August, was a school contact case. The fourth case is more difficult to explain. It was notified on 26th August, and probably arose from some lingering infection in the school. All four children were removed to the Isolation Hospital, and the homes disinfected on the day of removal. The school books of the affected children were burnt and the school was disinfected.

**Lissington & Bleasby Moor.** Scarlet Fever was reported from the Lissington School House on 20th June. The parents refused sanction for admission of the child to the Isolation Hospital, and the school was closed for six weeks. The Log Book showed that two more children were absent from illness. I advised the parents to call in their usual medical attendant, and both cases were subsequently notified on 23rd and 24th June. On 7th October a case was notified from Bleasby Moor. When I visited the house the patient was sitting with her two sisters in the living room. There was no attempt at isolation, and indeed that was hardly possible, with only two small bedrooms available. The patient was removed to the Isolation Hospital.

Of the two remaining cases one was an ambulatory case, which was not recognised until peeling occurred, and the boy was then isolated.





On examination of the School Log Book and further enquiry, I have come to the conclusion that notification has been carried out in a perfunctory way in this part of the District. Parents seem averse to medical attendance, and from one cause or another it is impossible to trace the genesis of the epidemic. The Clerk to the Council has written to the parties chiefly concerned, and I hope that there will be no difficulty in the future.

#### Diphtheria.

Only six cases were notified, a marked decrease compared with former years. The disease has occurred in a sporadic form in different parts of the district. In one or two cases, notably at North Kelsey Moor, the drainage was found to be unsatisfactory. The defects have since been remedied. Two "Carriers" belonging to Caistor, who had been excluded from school for eighteen months, were found on bacteriological examination to be free from infection, and were allowed to return to school.

One death occurred from diphtheria at Holton.

#### Whooping Cough.

Whooping cough has been prevalent all over the district. School closure was necessary in some instances on account of diminished attendances. Claxby School was closed by Dr. Johnson in April, and Brocklesby Park School and Bigby Schools on my advice in June and November respectively. Other schools were closed by the Education Authority.

There were two deaths from whooping cough in the district.

The following Table shows the periods of school closure during the year from illness.

School.	Period of Closure.	On what Account.
Kirkby-cum-Osgodby	3 weeks	Measles
Middle Rasen	1 week	Influenza
Claxby-cum-Normanby	6 weeks	Measles
Brocklesby Park	1 month	Whooping cough and infectious sore throat
Lissington	6 weeks	Scarlet fever
Legsby	2 weeks	Whooping cough
Bigby	2 weeks	Whooping cough

### DISINFECTION.

This work has been done satisfactorily. The present system of disinfection, however, is costly, although well adapted for dealing with schools and large buildings. A revision of the system is under consideration in so far as it affects ordinary house disinfection.

It is highly desirable that the services of the man who does this work should be retained, in one capacity or another, by the Council, and his time placed at their disposal. This would save unnecessary delay and make for efficiency.

### ISOLATION HOSPITAL.

Five cases of Scarlatina were treated in the hospital during the year.

The District Council have arranged for the installation of a steam disinfecter, subject to the approval of the Local Government Board.

### INFANTILE MORTALITY.

This question is one of first rate national importance. With a declining birth-rate all over the country, it is our bounden duty to do whatever is possible to prevent the wastage of infant life. In this district there is, so far as I know, no organised system of health visitors, and we are entirely dependent on the efforts of district nurses. The nurses are anxious and helpful to a degree, and I am bound to say that their help has been material and satisfactory. There are, however, many parishes which are not provided with district nurses, where voluntary effort would help to retrieve the situation.



Two or three lady visitors in each parish who would advise as to the feeding of mothers and babies would do an immense amount of good, and personally I should be very glad to help in any way possible.

The infantile death-rate per 1,000 births registered in the district is 78·43 compared with 122·5 for the year 1909, and with an average of 112·34 for the last ten years. The improvement is gratifying and substantial, and I trust will be continued.

### TUBERCULOSIS AND CANCER.

The following Tables show the distribution of deaths from these important diseases.

The figures are too small for any useful deduction to be drawn at present, but if similar information is tabulated from year to year, the numbers will become of value.

In the case of tubercular diseases it will be noticed that the proportion of deaths is much higher in the Low District than in the Wolds. In the case of cancer all information as to its occurrence and distribution is of interest and importance.

### PHTHISIS AND OTHER TUBERCULAR DISEASES.

Seventeen deaths from these diseases occurred, and they were distributed as follows :—

Wold District.	Deaths from all causes.	Percentage of deaths from Tubercular Diseases.
Caistor	1	19
Keelby	1	9
	<hr/> 2	<hr/> 28
		7·1
<b>Low District.</b>		
North Kelsey	6	19
South Kelsey	3	9
Middle Rasen	3	21
Holton	1	3
Nettleton	1	4
Wadingham	1	5
	<hr/> 15	<hr/> 61
		24·6

### CANCER.

Twelve deaths from Cancer were registered, but one death in the Union Work-house of a person belonging to Market Rasen is here excluded.

Wold District.	Deaths from all causes.	Percentage of deaths from Cancer.
Caistor	4	19
Keelby	1	9
Grasby	1	7
	<hr/> 6	<hr/> 35
		17·1
<b>Low District.</b>		
South Kelsey	2	9
Middle Rasen	1	21
Kirkby-cum-Osgodby	1	6
Wadingham	1	5
	<hr/> 5	<hr/> 41
		12·1

### MILK SUPPLY.

The supply of Milk in the District is generally deficient. I am well aware that the cause of the scarcity is to a large extent economic, but it seems a pity that the margin of milk production is not widened so as to provide a supply of fresh milk, at any rate, for purposes of infant feeding. At present, some babies are fed on separated





milk and some form of malted food, a dietary that spells starvation for young infants. It is difficult to get at the facts in these cases, but the parents are not free from blame. I am well assured that a representation in the proper quarter would always ensure a supply of fresh milk for babies.

#### MEAT.

The meat supply in the District is good.

In conclusion I beg to draw the attention of the Council to the zeal and ability displayed by the Sanitary Inspector, and to acknowledge the assistance he has given me in the preparation of this Report.

I am, Gentlemen,

Your obedient Servant,

ALEXANDER FRASER.

Medical Officer of Health



TABLE 1.—CAISTOR RURAL DISTRICT.

Vital Statistics of Whole District during 1910 and previous Years.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-residents registered in Public Institutions in the District	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate.*	Under 1 year of age.		At all ages.					Number.	Rate.*
				Number.	Rate per 1,000 Births registered.	Number.	Rate.*					
1	2	3	4	5	6	7	8	9	10	11	12	13
1900	12980	344	26·5	36	104·6	201	15·48	14	0	...	201	15·48
1901	12790	353	27·59	36	101·9	198	15·48	16	1	..	197	15·4
1902	12700	350	25·5	30	85·5	188	14·8	11	3	...	185	14·6
1903	12700	330	25·9	39	118·1	163	12·8	9	0	...	163	12·8
1904	12600	324	25·7	36	111·1	188	14·9	17	1	2	189	15
1905	12550	324	25·8	32	98·7	192	15·29	15	1	1	192	15·29
1906	12600	324	25·7	46	141·9	212	16·8	10	0	0	212	16·8
1907	12550	298	23·7	40	134·2	209	16·1	25	10	1	200	15·9
1908	12550	305	24·3	32	104·9	187	14·9	21	5	0	182	14·5
1909	12450	302	24·25	37	122·5	212	16·7	23	13	0	196	15·7
Averages for years 1900-1909.	12647	325·4	25·49	36·4	112·3	195	15·32	16·1	3·4	·66	191·7	15·14
1910.	12450	306	24·57	24	78·43	170	13·6	14	3	2	169	13·5

\* Rates in Columns 4 and 8 should be calculated per 1,000 of the estimated gross population. In districts in which large public institutions seriously affect the statistics, the rates in Column 13 may be calculated on a nett population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions.

NOTE.—The deaths to be included in Column 7 of this Table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purposes of these Tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatics asylums. A list of the Institutions in respect of the deaths in which corrections have been made should be given on the back of this Table.

Area of District in Acres  
(exclusive of area  
covered by water). } 116,206

Total population at all ages, 12,798 ...  
Number of inhabited houses, 3,048 ...  
Average number of persons per house, 4·19 ... } At Census of 1901.  
[SEE OVER.]

<p><sup>1</sup> Institutions within the District receiving sick and infirm persons from outside the District.</p>	<p><sup>2</sup> Institutions outside the District receiving sick and infirm persons from the District.</p>	<p><sup>3</sup> Other Institutions, the deaths in which have been distributed among the several localities in the District.</p>
<p>Caistor Union Workhouse.</p>	<p>Lincoln Hospital. Grimsby Hospital. Hull Infirmary. County Asylum, Bracebridge.</p>	
<p>Is the Union Workhouse within the District?    Yes.</p>		

TABLE 2.—CAISTOR RURAL DISTRICT.

## Vital Statistics of separate Localities in 1910 and previous Years.

NAMES OF LOCALITIES.	1 WHOLE DISTRICT.				2 CAISTOR.				3 MARKET RASEN.			
	Population estimated to middle of each year.	Births Registered.	Deaths at all Ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered	Deaths at all ages.	Deaths under 1 year.	Population estimated to middle of each year.	Births registered	Deaths at all ages.	Deaths under 1 year.
YEAR.	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>
1900 ...	12980	344	201	36	7220	207	113	20	5760	137	88	16
1901 ..	12790	353	197	36	7060	205	100	13	5730	148	98	23
1902 ...	12700	350	185	30	7010	182	100	10	5690	168	85	20
1903 ...	12700	330	163	39	7010	178	105	24	5690	152	58	15
1904 ...	12600	324	189	36	6950	179	114	13	5650	145	75	23
1905 ...	12550	324	192	32	6920	164	110	13	5630	160	82	19
1906 ...	12600	324	212	46	6950	185	133	23	5650	139	79	23
1907 ...	12550	298	200	40	6920	177	126	20	5630	121	83	20
1908 ...	12550	305	187	32	6920	180	111	18	5630	125	76	14
1909 ...	12450	302	212	37	6870	166	117	19	5580	136	95	18
Averages of years 1900-1909.	12647	325.4	193.8	36.4	6983	182.3	112.9	17.3	5664	143.1	81.9	19.1
1910.	12450	306	170	24	6870	162	102	12	5580	144	68	12

NOTES.—(a) The separate localities adopted for this Table should be areas of which the populations are obtainable from the census returns, such as wards, parishes or groups of parishes, or registration sub-districts. Block 1 may, if desired, be used for the whole district; and blocks 2, 3, &c., for the several localities. In small districts without recognised divisions of known population this Table need not be filled up.

(b) Deaths of residents occurring in public institutions beyond the district are to be included in sub-columns *c* of this Table, and those of non-residents registered in public institutions in the district excluded (See note on Table 1. as to the meaning of terms "resident" and "non-resident.")

(c) Deaths of residents occurring in public institutions, whether within or without the district, are to be allotted to the respective localities according to the addresses of the deceased.

(d) Care should be taken that the gross totals of the several columns in this Table respectively equal the corresponding totals for the whole districts in Tables 1 and 4; thus, the totals of sub-columns *a*, *b*, and *c* should agree with the figures for the year in the columns 2, 3, and 12, respectively, of Table 1; the gross total of the sub-columns *c* should agree with the total of column 2 in Table 4, and the gross total of sub-columns *d* with the total of column 3 in Table 4.





TABLE 3.—CAISTOR RURAL DISTRICT.

## Cases of Infectious Disease notified during the Year 1910.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.		** No. OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.		
	At all Ages.	At Ages †—Years.						CAISTOR.	MARKET RASEN.	CAISTOR.	MARKET RASEN.	Total cases removed to Hospital
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards					
Small Pox ... ..	...	...	...	...	...	...	...	...	...	W	H	...
Cholera ... ..	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Croup)	6	...	...	4	1	...	...	4	2	..	...	...
Erysipelas ... ..	2	...	...	...	...	...	...	1	1	...	...	...
Scarlet Fever ...	14	...	...	9	...	...	...	6	8	4	1	5
Typhus Fever ...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ...	1	...	...	...	1	...	...	1	...	...	...	...
Relapsing Fever ...	...	...	...	...	...	...	...	...	...	...	...	...
Continued fever ...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever ...	...	...	...	...	...	...	...	...	...	...	...	..
Plague ... ..	...	...	...	...	..	...	...	...	...	...	...	...
.												
Totals ... ..	23			13	2			12	11	4	1	5

NOTES.—The localities adopted for this Table should be the same as those in Tables 2 and 4.

State in space below the name of the isolation hospital, if any, to which residents in the district, suffering from infectious disease, are usually sent, and the accommodation available for the district afforded by it. Mark (H) the locality in which it is situated, or if not within the district, state where it is situated, and in what district. The name of the authority by whom the hospital is provided should also be given. Mark (W) the locality in which a workhouse is situated.

\* This space may be used for record of other disease, the notification (compulsory or voluntary) of which is in force in the district.

† These age columns for notifications should be filled up in all cases where the Medical Officer of Health, by inquiry or otherwise, has obtained the necessary information.

\*\* Column 8 should be filled up with the Totals of cases removed to Hospital, whether the District is divided into separate localities or is treated as one undivided area.

Isolation Hospital—OSGODBY, MARKET RASEN. Total available beds 20. Number of diseases that can be concurrently treated, 1.



TABLE 4.—CAISTOR RURAL DISTRICT.

Causes of, and Ages at, Death during Year 1910.

(SEE NOTES AT BACK).

CAUSES OF DEATH.	DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING IN OR BEYOND THE DISTRICT.							DEATHS AT ALL AGES OF "RESIDENTS" BELONGING TO LOCALITIES, WHETHER OCCURRING IN OR BEYOND THE DISTRICT.			TOTAL DEATHS WHETHER OF RESIDENTS OR NON-RESIDENTS IN PUBLIC INSTITUTIONS IN THE DISTRICT.
	All Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	CAISTOR.	MARKET RASEN.		
1	2	3	4	5	6	7	8	9	10	11	12
Small-Pox ... ..	...	...	...	...	..	..	...	...	...		
Measles ... ..	...	...	...	...	...	...	...	...	...		
Scarlet Fever ... ..	...	...	...	...	...	...	...	...	...		
Whooping-Cough ... ..	2	1	1	...	...	...	...	2	...		
Diphtheria (including Membranous Croup) ... ..	1	...	1	...	...	...	...	1	...		
Croup ... ..	...	...	...	...	...	...	...	...	...		
Typhus ... ..	...	...	...	...	...	...	...	...	...		
Fever { Enteric ... ..	1	...	...	...	1	...	...	1	...		
Other continued ... ..	...	...	...	...	...	...	...	...	...		
Epidemic Influenza ... ..	4	...	...	...	...	3	1	3	1		1
Cholera ... ..	...	...	...	...	...	...	...	...	...		
Plague ... ..	...	...	...	...	...	...	...	...	...		
Diarrhoea. (See notes at back) ... ..	...	...	...	...	...	...	...	...	...		
Enteritis. (See notes at back) ... ..	1	1	...	...	...	...	...	...	1		
Gastritis. (See notes at back) ... ..	...	...	...	...	...	...	...	...	...		
Puerperal Fever. (See notes at back) ... ..	1	...	...	...	...	1	...	...	1		
Erysipelas ... ..	...	...	...	...	...	...	...	...	...		
Phthisis, (Pulmonary Tuberculosis) ... ..	12	...	...	1	4	5	2	10	2		2
Other Tuberculous Diseases ... ..	5	...	1	2	1	1	...	4	1		1
Cancer. Malignant Disease. (See notes at back) ... ..	12	...	...	...	...	5	7	10	2		2
Bronchitis ... ..	10	2	...	...	...	2	6	5	5		1
Pneumonia ... ..	7	2	3	...	...	1	1	4	3		
Pleurisy ... ..	...	...	...	...	...	...	...	...	...		
Other Diseases of Respiratory Organs ... ..	...	...	...	...	...	...	...	...	...		
Alcoholism } Cirrhosis of Liver } ... ..	1	...	...	...	...	1	...	1	...		
Veneral Diseases ... ..	...	...	...	...	...	...	...	...	...		
Premature Birth ... ..	4	4	...	...	...	...	...	1	3		
Diseases and Accidents of Parturition ... ..	2	...	...	...	1	1	...	1	1		
Heart Diseases ... ..	22	...	...	...	...	10	12	9	13		2
Accidents .. ...	1	...	...	...	...	1	...	...	1		
Suicides ... ..	...	...	...	...	...	...	...	...	...		
All other causes ... ..	84	14	2	2	1	11	54	50	34		11
All causes... ..	170	24	8	5	8	42	83	102	68		20

## NOTES TO TABLES IV. AND V.

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- (a) In Table IV., all deaths of "Residents" occurring in public institutions, whether within or without the district, are to be *included* with the other deaths in the columns for the several age groups (columns 2-8). They are also, in columns 9-11, to be *included* among the deaths in their respective "Localities" according to the previous addresses of the deceased as given by the Registrars. Deaths of "Non-residents" occurring in public institutions in the district are in like manner to be *excluded* from columns 2-8 and 9-11 of Table IV.
- (b) See notes on Table I. as to the meaning of "Residents" and "Non-residents," and as to the "Public Institutions" to be taken into account for the purposes of these Tables. The "Localities" in Table IV. should be the same as those in Tables II. and III.
- (c) All deaths occurring in public institutions situated within the district whether of "Residents" or of "Non-residents," are, in addition to being dealt with as in note (a), to be entered in the last column of Table IV. The total number in this column should equal the figures for the year in column 9, Table I.
- (d) The total deaths in the several "Localities" in columns 9-11 of Table IV. should equal those for the year in the same localities in Table II. sub-columns c. The total deaths at all ages in column 2 of Table IV. should equal the gross total of columns 9-11, and the figures for the year in column 12 of Table I.
- (e) Under the heading of "Diarrhœa" are to be included deaths registered as due to Epidemic diarrhœa, Epidemic enteritis, Infective enteritis, Zymotic enteritis, Summer diarrhœa, Dysentery and Dysenteric diarrhœa, Choleraic diarrhœa, Cholera (other than Asiatic or epidemic), and Cholera Nostras.
- Deaths from diarrhœa secondary to some other well-defined disease should be included under the latter.
- Deaths from Enteritis, Muco-Enteritis, Gastro-Enteritis, and Gastritis (see under the heading Diarrhœal Diseases in Table V.) in Tables IV. and V. should be placed immediately below, but separately from, those enumerated under the heading Diarrhœa as defined by enumeration above. This is particularly important for deaths under one year of age, as many of the deaths in infancy returned as due to Enteritis are really caused by Epidemic Diarrhœa. In the course of years, by the adoption of this recommendation, it will be practicable to ascertain the probable amount of transfer between these different headings.
- (f) Under the headings of "Cancer" and "Puerperal fever" should be included all registered deaths from causes comprised within these general terms. Thus: Under "Cancer" should be included deaths from Cancer, Carcinoma, Malignant disease, Scirrhus, Epithelioma, Sarcoma, Villous tumour, and Papilloma of bladder, Rodent ulcer. Under "Puerperal Fever" are to be included deaths from Pyæmia, Septicæmia, Sapræmia, Pelvic peritonitis, Peri- and Endo-Metritis occurring in the Puerperium.
- (g) Under "Congenital Defects" in Table V. are to be included deaths from Atelectasis, Icterus neonatorum, Navel hæmorrhage, Malformations and Congenital hydrocephalus.
- (h) Under "Tuberculous Meningitis" are to be included deaths from Acute hydrocephalus.
- (i) Under "Other Tuberculous Diseases" are to be included deaths from Tuberculosis, Tuberculosis of bones, joints and other organs, Lupus and Scrofula.
- (j) All deaths certified by registered Medical Practitioners and all Inquest cases are to be classed as "Certified"; all other deaths are to be regarded as "Uncertified."
- 

In recording the facts under the various headings of Tables I., II., III., IV. and V., attention has been given to the notes on the Tables.

ALEXANDER FRASER, *Medical Officer of Health.*

January 25th, 1911.



TABLE 5.—CAISTOR RURAL DISTRICT.

## INFANTILE MORTALITY DURING THE YEAR 1910.

Deaths from stated Causes in Weeks and Months under One Year of Age.

(See Notes at Back of Table IV).

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
All Causes.	Certified ... ..	1	1	1	...	3	...	1	2	2	1	...	1	...	...	...	...	7
	Uncertified ... ..	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	2
i. Common Infectious Diseases.	Small Pox ... ..																	
	Chicken Pox ... ..																	
	Measles ... ..																	
	Scarlet Fever ... ..																	
	Diphtheria (including Membranous Croup)																	
ii. Diarrhoeal Diseases. (See Notes to Table IV.)	Whooping Cough ...																	
	Diarrhoea, all forms ...																	
	Enteritis, Muco-enteritis, Gastro-enteritis																	
	Gastritis, Gastro-intestinal Catarrh																	
	Premature Birth ... ..		1	...	...	1												
iii. Wasting Diseases.	Congenital Defects See Notes to Table IV.																	
	Injury at Birth ... ..																	
	Want of Breast-milk, Starvation																	
	Atrophy, Debility, Marasmus	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	1
	Tuberculous Meningitis See Notes to Table IV.																	
iv. Tuberculous Diseases.	Tuberculous Peritonitis, Tabes Mesenterica																	
	Other Tuberculous Diseases																	
	See Notes to Table IV.																	
	Erysipelas ... ..																	
	Syphilis ... ..																	
v. Other Causes.	Rickets ... ..																	
	Meningitis (not Tuberculous)																	
	Convulsions ... ..	...	...	1	...	1	...	...	1	1	2	...	1	...	...	1	...	6
	Bronchitis ... ..	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
	Laryngitis ... ..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Pneumonia ... ..	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
	Suffocation, overlying																	
Other causes ... ..																		
		1	1	1	...	3	...	1	2	2	2	...	1	...	...	1	...	9

District (or sub-division) of CAISTOR.

Population  
Estimated to middle of 1910,  
6,870.Births in the year { legitimate 162.  
illegitimateDeaths in the year of { legitimate infants 12.  
illegitimate infants

Deaths from all Causes at all Ages 102.



TABLE 5.—CAISTOR RURAL DISTRICT.  
*INFANTILE MORTALITY DURING THE YEAR 1910.*  
 Deaths from stated Causes in Weeks and Months under One Year of Age.  
 (See Notes at Back of Table IV).

CAUSE OF DEATH.			Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
All Causes.	Certified	...	4	...	...	1	5	...	2	1	1	...	1	1	...	...	...	1	7
	Uncertified	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
i. Common Infectious Diseases.	Small Pox	...																	
	Chicken Pox	...																	
	Measles	...																	
	Scarlet Fever	...																	
	Diphtheria (including Membranous Croup)	...																	
ii. Diarrhoeal Diseases. (See Notes to Table IV.)	Whooping Cough	...																	
	Diarrhoea, all forms	...																	
	Enteritis, Muco-enteritis, Gastro-enteritis	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1
iii. Wasting Diseases.	Gastritis, Gastro-intestinal Catarrh	...																	
	Premature Birth	...	2	...	...	...	2												
	Congenital Defects See Notes to Table IV.	...																	
	Injury at Birth	...																	
iv. Tuberculous Diseases.	Want of Breast-milk, Starvation	...																	
	Atrophy, Debility, Marasmus	...	1	...	...	1	2	...	1	...	1	...	...	...	...	...	...	...	2
	Tuberculous Meningitis See Notes to Table IV.	...																	
	Tuberculous Peritonitis, Tabes Mesenterica	...																	
	Other Tuberculous Diseases See Notes to Table IV.	...																	
v. Other Causes.	Erysipelas	...																	
	Syphilis	...																	
	Rickets	...																	
	Meningitis (not Tuberculous)	...																	
	Convulsions	...	1	...	...	...	1	...	...	1	...	...	...	...	...	...	...	1	2
	Bronchitis	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1
	Laryngitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Pneumonia	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	1
	Suffocation, overlying	...																	
	Other causes	...																	
			4	...	...	1	5	...	2	1	1	...	1	1	...	...	...	1	7

District (or sub-division) of MARKET RASEN.

Population  
Estimated to middle of 1910,  
5,580.

Births in the year  $\left\{ \begin{array}{l} \text{legitimate 142.} \\ \text{illegitimate 2.} \end{array} \right.$

Deaths in the year of  $\left\{ \begin{array}{l} \text{legitimate infants 12.} \\ \text{illegitimate infants} \end{array} \right.$

Deaths from all Causes at all Ages 68.

